

## ABSTRACT OF THE DISCLOSURE

A multicarrier transmission apparatus that achieves both power efficiency in a high-frequency amplifier and quality of transmission signal in a radio transmission system in next-generation mobile communications that supports high speed data packet transmission. In the apparatus, adaptive peak limiter 400 performs adaptive hard limit processing on baseband signals of frequency channels passed through multiplexing sections 200a to 200d for users, multicarrier signal generating circuit 500 with peak suppressing function performs peak limit processing on a synthesized multicarrier signal, hybrid distortion compensating circuit 700 corrects non-linear distortion due to high-frequency amplifier 32, and the multicarrier signal is transmitted from an antenna (ANT).